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Notice of Allowability

Application No.

10/689,355

Examiner

Eric C. Wai

Applicant(s)

BEAUMONT, MARK

Art Unit

2195

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Supplemental Amendment Dated 01/16/2008 with two Terminal Disclaimers.
2. ☒ The allowed claim(s) is/are 1-21.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.


Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 11/02/2007
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 20080118-A
7. ☐ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


LEWIS A. BULLOCK, JR.
PRIMARY EXAMINER

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with Mr. Edward L. Pencoske, Reg No. 29,688 on 01/09/2008.

3. Claims 1, 8-9, and 21, have been amended as follows:

1. (currently amended) A method for balancing the load of a parallel processing system having a plurality of parallel processing elements arranged in a loop, wherein each processing element has a local number of tasks associated therewith, wherein r represents the number for a selected processing element PE_r , and wherein each of said processing elements are operable to communicate with a clockwise adjacent processing element and with an anti-clockwise adjacent processing element, the method comprising:

determining within each of said processing elements a total number of tasks present within said loop;

calculating a local mean number of tasks within each of said plurality of processing elements;

calculating a local deviation from said local mean number within each of said plurality of processing elements;

determining a sum weighted deviation from said local deviations and an assigned weight within each of said processing elements for one-half of said loop in an anti-clockwise direction, said one-half of said loop being relative to each of said selected processing elements;

determining a sum weighted deviation from said local deviations and an assigned weight within each of said processing elements in one-half of said loop in a clockwise direction, said one-half of said loop being relative to each of said selected processing element;

determining a clockwise transfer parameter and an anti-clockwise transfer parameter from said sum weighted deviations within each of said processing elements; and

redistributing tasks among said plurality of processing elements using said clockwise transfer parameters and said anti-clockwise parameters within each of said plurality of processing elements.

8. (currently amended) The method of claim 1 wherein said determining a sum weighted deviation within each of said processing elements for one-half of said loop in an anti-clockwise direction comprises:

~~assigning a weight to each other of said plurality of processing elements within said loop;~~

transmitting said local deviation and said assigned weight associated with each of said processing elements half way around said loop in an anti-clockwise direction, said one-half of said loop being relative to each of said selected processing elements;

receiving said local deviation and said assigned weight associated with each other of said processing elements half way around said loop in a clockwise direction, said one-half of said loop being relative to each of said selected processing elements; and

summing the product of said local deviation and said assigned weight associated with each other of said processing elements halfway around said loop in a clockwise direction.

9. (currently amended) The method of claim 1 wherein said determining a sum weighted deviation within each of said processing elements in one-half of said loop in a clockwise direction comprises:

~~assigning a weight to each other of said plurality of processing elements within said loop;~~

transmitting said local deviation and said assigned weight associated with each of said processing elements halfway around said loop in an clockwise direction, said one-half of said loop being relative to each of said selected processing elements;

receiving said local deviation and said assigned weight associated with each other of said processing elements half way around said loop in a anti-clockwise

direction, said one-half of said loop being relative to each of said selected processing elements; and

summing the product of said local deviation and said assigned weight associated with each other of said processing elements halfway around said loop in a anti-clockwise direction.

21. (currently amended) A computer storage media carrying a set of instructions which, when executed, perform a method comprising:

determining within each of said processing elements a total number of tasks present within said loop;

calculating a local mean number of tasks within each of said plurality of processing elements;

calculating a local deviation from said local mean number within each of said plurality of processing elements;

determining a sum weighted deviation from said local deviations and an assigned weight within each of said processing elements for one-half of said loop in an anti-clockwise direction, said one-half of said loop being relative to each of said selected processing elements;

determining a sum weighted deviation from said local deviations and an assigned weight within each of said processing elements in one-half of said loop in a clockwise direction, said one-half of said loop being relative to each of said selected processing element;

determining a clockwise transfer parameter and an anti-clockwise transfer parameter from said sum weighted deviations within each of said processing elements; and

redistributing tasks among said plurality of processing elements using said clockwise transfer parameters and said anti-clockwise parameters within each of said plurality of processing elements.

-- END OF AMENDMENT --

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric C. Wai whose telephone number is 571-270-1012. The examiner can normally be reached on Mon-Thurs, 8am-5pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng - Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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LEWIS A. BULLOCK, JR.
PRIMARY EXAMINER